



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number: 10/021,656

Appn. filed : 2001 Dec.12

Applicant : Gary c. Johnson

Title : Johnson-positive action continuous traction
(pact) differential.

Art Unit : 3681

Examiner : Dirk Wright

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To : The Board of Patent Appeals and Interferences

For : Consideration of reexamination of application 10/021,656,
from the final rejection of date: 10-16-2003.

In accordance with 37 CFR 1.302, 1.304, and 1.191 .

Prior rejections : Dates: 10-10-2002, and 05-05-2003

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NOTE CHANGE OF ADDRESS TO : Gary c. Johnson
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Det. MI. 48207

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APPEAL BRIEF

TO THE BOARD OF APPEALS AND INTERFERENCES :

I am Gary C. Johnson. Please excuse my informalities. I request that your board reverse the decision of final rejection of 10-16-2003, based on the following points.

The claims that I will send are included in this brief. Particularly claim number 8.

Claim number 8. is a new planetary gear. it is not only different in configuration from known planetary gears, but it also functions quite differently. It has retroactive qualities of one axle section relative to the other axle section. Herein inversely proportional rotation between axle sections is made possible.

Further more the patent of Borgudd's; 5,176,589, claims a controllable differential. Anything can be made to be to made controllable by indirect means.

At the time of Borgudd's patent, the said new planetary gear of mine had not yet been conceived of. Besides someone utilizing two known planetary gears in a different way to invent something better, would not be excluded from possible patenting. Again as stated; Borgudd's patent is of a "CONTROLLED" differential.

I also filed a provisional patent application, on 12/12/01. It shows the said new planetary gear of mine, being without other conventional planetary gears, but is much more complex.

(2)

APPEAL BRIEF (cont.)

The invention of Borgudd's require some kind braking mechanisms. Notice in the description of the preferred embodiment of BORGUD'S (5,176,589), lines 41 and 42; that the type of planetary gear used, has/is a ring gear that is in contact/rotates the planet wheels (16,17), in line 19 of the same heading.

The planetary gear used in my invention doesn't have or need a ring gear around it's planet wheel(S).

The said new planetary gear of mine is the only way possible to have inversely proportional variability and equalized lateral rotation of each/both axle sections, in a differential having all gear drive.

Years ago, I had come to realize that in order to have inverse rotation of one axle to the other, that the speed of the drive case need be a constant of the three variables. Also that the the two driven variables need some how push away from each other using the constant drive factor as a base.

Again I appologize for my informalities. I have very limited resources, and my education isn't quite adequate.

I look forward to your response,

THANK YOU !, GARY C. JOHNSON

APPN. # 10/021,656

Gary Johnson - Appn. # 10/021,656

I Claim;

7. A self controlled, self contained, gear driven differential, having continuous drive means for each output shaft, said differential comprising a conventional planetary differential gear, and at least one new planetary differential gear, said differential including:

a differential gear housing (8) that is drivable rotatively and, planet gears (13,14) mounted in the said housing (8) for axial and radial rotation therewith and, differential side bevel gears (11,12) mounted rotatively in the said housing (8), meshing with the said planet gears (13,14) and, one axle shaft (5), being axially stationary to the said side bevel gear (12), said axle shaft (5) being freely rotative within the said differential housing (8), and further comprising:

at least one said; new planetary gear comprising

two sun gears (6,7) and, at least one planetary gear (15/16) and, and a support structure (9) and one input shaft (19) and, two output shafts (5,10);

Wherein:

- (a) said support structure (9) is independently rotative of any other housing of the said differential, and the said support structure supporting the said at least one planet-gear (15/16), the support structure (9) being axially stationary to the side bevel gear (11), and the said support structure being axially supported by way of the differential case (8) and.

- (b) one input shaft (19); being axially stationary to the drive case (8) and the said input shaft (19) having a smooth rounded inner surface throughout and,
- (c) a sun- gear (7) being open throughout it's central axis, the said sun gear(7) being axially stationary to the end of the said input shaft (19) and,
the afore mentioned output shaft (5) being entered freely through and past the end of the said input shaft (19), and past the said sun- gear (7) that is stationary to the end of the said input shaft (19); herein the end of the said output shaft (5) being entered into the said support structure (9); wherein the end of the said output shaft (5) protrudes past the sun- gear (7) that is stationary to the said input shaft (19) and,
- (d) a sun- gear (6); being axially stationary to the end of the output shaft (5) and,
- (e) an output shaft (10); being entered through the said case (8); wherein the said output shaft (10) is axially stationary to the said support structure (9) and,
- (f) at least one planet-gear (15/16) orbitally engaged to the said sun-gears (6,7) the planet-gear(s)'s axes being parallel to the central axis of the differential, being rotatively stationary to/within the support structure (9), the said at least one planet-gear (15/16) being supported by the support structure (9) .

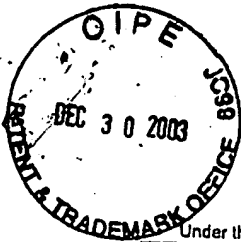
8.A new planetary differential gear as claimed in claim 7., the said at least one new planetary differential gear including:

two sun-gears (6,7), at least one planet-gear (15/16) and a support structure (9);

Wherein:

- (a) said support structure (9) is independently rotative of any other housing of the said differential, and the said support structure supporting the said at least one planet- gear (15/16), the support structure (9) being axially stationary to the side bevel gear (11),and the said support structure being axially supported by way of the differential case (8) and,

- (b) one input shaft (19); being axially stationary to the drive case (8) and the said input shaft (19) having a smooth rounded inner surface throughout and,
- (c) a sun- gear (7) being open throughout it's central axis, the said sun gear(7) being axially stationary to the end of the said input shaft (19) and, the afore mentioned output shaft (5) being entered freely through and past the end of the said input shaft (19), and past the said sun- gear (7) that is stationary to the end of the said input shaft (19); herein the end of the said output shaft (5) being entered into the said support structure (9); wherein the end of the said output shaft (5) protrudes past the sun- gear (7) that is stationary to the said input shaft (19) and,
- (d) a sun- gear (6); being axially stationary to the end of the output shaft (5) and,
- (e) an output shaft (10); being entered through the said case (8); wherein the said output shaft (10) is axially stationary to the said support structure (9) and,
- (f) at least one planet-gear (15/16) orbitally engaged to the said sun-gears (6,7) the planet-gear(s)'s axes being parallel to the central axis of the differential, being rotatively stationary to/within the support structure (9), the said at least one planet-gear (15/16) being supported by the support structure (9) .



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FIG. 1

